

WHAT IS CLAIMED IS:

1. An optical fiber cable for air-blown installation, comprising:

a plurality of optical fibers acting as a medium for transmitting optical signals;

5 a tube binding the optical fibers;

a plurality of string fillers surrounding an outer periphery of the tube at a predetermined spacing;

a plurality of tensile members positioned between the string fillers to surround the outer periphery of the tube for improving the tensile force of the optical fiber cable, the string fillers and tensile members being curved in cross-section and having respective radially outer surfaces that collectively define an outer surface for the string fillers and tensile members as positioned around the tube; and

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an outer sheath formed in a flexuous shape to surround said outer surface for the string fillers and tensile members.

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2. The cable of claim 1, wherein the outer sheath is formed with an outer surface that in cross-section is flexuous in correspondence with said outer surface of the string fillers and tensile members.

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3. The cable of claim 2, wherein the tube is formed with a curved cross-section.

4. The cable of claim 3, wherein the tube, string fillers and tensile members are formed generally circular in cross-section.

5. The cable of claim 1, wherein the tube has a radially outer surface and wherein the string fillers and the tensile members are stranded in an S-Z form along the tube outer surface.

6. The cable of claim 1, wherein the tube has a radially outer surface and wherein the string fillers and the tensile members are stranded in a helical form along the tube outer surface.

7. The cable of claim 1, wherein the tensile members are made from a mixture of fiberglass reinforced plastic (FRP) in the range of less than 95% and an UV curing agent.

8. The cable of claim 1, wherein the string fillers are made from a polymer material which provides the optical fiber cable with expandability and a tension-resistant force.

9. The cable of claim 1, wherein the outer sheath is made from a polyethylene (PE) polymer-based material.

10. The cable of claim 1, wherein an empty space between the tube and the optical fibers is filled with a gel filler.

11. An optical fiber cable for air-blown installation, comprising:

5 a bundle of optical fibers formed by laminating a plurality of optical fiber ribbons acting as a medium for transmitting optical signals;

a tube binding the bundle of optical fibers;

a plurality of string fillers surrounding an outer periphery of the tube at a predetermined spacing;

10 a plurality of tensile members positioned between the string fillers to surround the outer periphery of the tube for improving the tensile force of the optical fiber cable, the string fillers and tensile members being curved in cross-section and having respective radially outer surfaces that collectively define an outer surface for the string fillers and tensile members as positioned around the tube; and

15 an outer sheath formed in a flexuous shape to surround said outer surface for the string fillers and tensile members.

12. The cable of claim 11, wherein an empty space between the tube and the optical fibers is filled with a gel filler.

20 13. The cable of claim 11, wherein the outer sheath is formed with an outer surface that in cross-section is flexuous in correspondence with said outer surface of the

string fillers and tensile members.

14. The cable of claim 13, wherein the tube is formed with a curved cross-section.

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15. The cable of claim 14, wherein the tube, string fillers and tensile members are formed generally circular in cross-section.

16. The cable of claim 11, wherein the tube has a radially outer surface and
10 wherein the string fillers and the tensile members are stranded in an S-Z form along the tube outer surface.

17. The cable of claim 11, wherein the tube has a radially outer surface and
15 wherein the string fillers and the tensile members are stranded in a helical form along the tube outer surface.

18. A method for forming an optical fiber cable for air-blown installation comprising the steps of:

20 providing a plurality of optical fibers acting as a medium for transmitting optical signals;

providing a tube binding the optical fibers;

surrounding, with a plurality of string fillers, an outer periphery of the tube at a

predetermined spacing;

positioning a plurality of tensile members between the string fillers to surround the outer periphery of the tube for improving the tensile force of the optical fiber cable, the string fillers and tensile members being curved in cross-section and having respective radially outer surfaces that collectively define an outer surface for the string fillers and tensile members as positioned around the tube; and

providing an outer sheath formed in a flexuous shape to surround said outer surface for the string fillers and tensile members.

10 19. The method of claim 18, wherein the outer sheath providing step comprises the step of forming the outer sheath with an outer surface that in cross-section is flexuous in correspondence with said outer surface of the string fillers and tensile members.

 20. The method of claim 19, wherein the tube providing step comprises the step of forming the tube with a curved cross-section.

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